

NOTES ON PLATES OF NOVA GEMINORUM OF 1912  
TAKEN WITH THE BRUCE SPECTROGRAPH  
OF THE YERKES OBSERVATORY.

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(Read April 20, 1912.)

*1912, March 15.* Displacement of sharp H and K lines indicates a velocity of 17 km. recession. This velocity does not differ greatly in all the photographs. Many titanium lines are represented by absorption lines displaced about 7 Å. toward the violet. The relative brightness of the emission components of the hydrogen lines  $\beta$ ,  $\gamma$ ,  $\delta$ , as compared with the continuous spectrum is less than in all subsequent plates.

*March 21.* The centers of the bright bands are now 2 Å. toward the red, as compared with 10 Å. on March 15. Note the sharp bright line at  $\lambda$  4,526. A second absorption band now accompanies each bright band.

*March 24.* Shows marked increase in intensity of the second absorption band for each hydrogen line.

*March 29.* Two bright maxima may be seen near the red edge of the bright H $\delta$  band. They are also present in H $\epsilon$ . A similar line near the beginning of the bands is more difficult to see on the print.

*March 30.* There are two conspicuous bright maxima near the beginning of the bright H $\gamma$  band and one or two near the red edge. On a short-exposure plate of April 1 three conspicuous maxima are seen near the red edge of  $\beta$ ,  $\gamma$  and  $\delta$ .

*April 1 and 2.* The hydrogen bands are concentrating their intensity toward the red edge. Note that there are two bright superposed bands for each hydrogen line, one much longer and fainter than the other. This is first indicated plainly on March 29. The broad bright band at  $\lambda$  4,640 has been gradually gathering intensity.

YERKES OBSERVATORY,  
WILLIAMS BAY, WIS.,  
April 18th, 1912.